

## **PREVENTING GROUNDWATER POLLUTION: OIL AND GAS PRODUCERS**

### **PREVENTING GROUNDWATER POLLUTION IS YOUR JOB, TOO!**

In the areas of Kentucky where oil and gas wells are operating, people also rely on groundwater for their drinking water, so it is especially important to protect groundwater from pollution. Even though no one may be living near the oil production wells, groundwater can still be polluted by activities associated with producing the oil and gas. This is because groundwater can travel a considerable distance from the production wells to springs or wells being used for water supply.

### **THE GROUNDWATER PROTECTION PLAN REGULATION HELPS US PREVENT GROUNDWATER POLLUTION**

Once polluted, groundwater is very difficult and expensive to clean up. It is always best to **prevent** groundwater pollution in the first place. The purpose of the Groundwater Protection Plan Regulation (401 KAR 5:037) is to get people who conduct activities that have the potential to pollute groundwater to conduct their activities in a way that will prevent the pollution. Activities associated with oil and gas production have the potential to pollute groundwater. For this reason, you will need to develop a Groundwater Protection Plan (GPP).

You can obtain information about GPPs from the Groundwater Branch, Kentucky Division of Water by calling 502/564-3410 and talking to the GPP review staff. They will be glad to answer your questions and assist you with developing your GPP. If you know your way around computers, go to the Natural Resources and Environmental Protection Cabinet's Web Home Page at <http://www.kyenvironment.org>. Click on Groundwater Protection Plans under the topic list. This will take you to the Groundwater Branch Permit Review Section where you can access 401 KAR 5:037, all generic GPPs, and the guidance, "Preparing a Groundwater Protection Plan."

Once you have written your plan, keep it in a place where it can be easily found, such as your truck, car, or the company office. You may also send a copy to the regional field office or to the Groundwater Branch in Frankfort to keep on file should any citizens wish to review it.

### **WHAT ARE SOME ACTIVITIES THAT OIL AND GAS PRODUCERS SHOULD PAY SPECIAL ATTENTION TO?**

#### **1. ACCUMULATIONS OF OILY LIQUIDS IN THE SPCC CONTAINMENT AREA**

- Inspect SPCC system at least monthly. Check tank foundations, connections, coatings, tank walls, and the piping system for leaks and repair them as needed.

- Remove the oily liquids as soon as possible. Clay dirt is not impervious to petroleum. Unless an impervious liner is used on the floor of the containment area, oily liquids will seep through the dirt floor and pollute groundwater. Groundwater pollution is very expensive when you consider the cost of the cleanup, the fines imposed for polluting the waters of the Commonwealth, and the income lost due to loss of product that could have been sold. Remember, too, that oil in groundwater may mean oil in someone's drinking water. So removing oily accumulations as soon as possible is important financially, but it's also a part of being a good neighbor.

## **1. SPCC DIKES**

- Is the bermed area around the tanks large enough to contain the volume of the largest tank? Inadequate sizing can lead to overflows and massive clean up of the ground surface outside the berm.
- Does the bermed area include all the tanks? If not, the berm must be enlarged or a berm constructed around the unprotected tank.
- Is the berm well-maintained? An eroded-down wall or even a small crack can allow oily liquids to escape the containment area.
- Does an impervious liner compatible with the contents of the tank(s) cover the floor and berm of the containment area? A liner is the best means of protecting groundwater.

## **1. SPILLS OUTSIDE THE DIKE**

- Spills, no matter how small, must be cleaned up immediately. It is the small spills accumulated over time that cause serious groundwater pollution. A spill containment/cleanup kit should be kept near the tanks at all times.

## **1. KEEPING TANKS IN GOOD SHAPE**

- To prevent leaking:
  - a. be sure to properly maintain any tank bolts, gaskets, rivets, seams, and other parts.
  - b. keep each tank free of cracks and holes.
  - c. keep each tank free of excessive rust and exterior corrosion. There are excellent coatings available to prevent rust and corrosion if applied when needed.

## **1. PROPERLY CLOSING THE PRODUCTION SITE**

- Follow the closure requirements in the Commonwealth of Kentucky Oil and Gas Well Operator's Manual.
- Remove all tanks. Tanks that contain any product will eventually leak due to lack of maintenance. The leaked oil will seep through the soil and into the groundwater.
- Properly plug wells. Unplugged or improperly plugged wells allow surface water and other surface pollutants to enter groundwater directly and pollute it.

## **HELPFUL INFORMATION**

- Commonwealth of Kentucky Oil and Gas Well Operators Manual, July 1999.
- SPCC Requirements and Pollution Prevention Practices for Oil Production,

Drilling, and Workover Facilities, a compliance assistance guide that may be accessed at the USEPA site <http://www.epa.gov/oilspill/>.